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(54) Toothbrush

(57) The toothbrush comprises an elongate body portion 1 and a cap 2 each moulded of plastics. The body portion 1 includes a handle section 3 which is substantially flat but smoothly increases in cross-sectional dimension towards an abutment 4 provided with a rib 8. A flat head 5 is joined to the abutment 4 by a neck section 6 and carries a set of laterally projecting bristles 7. The cap 2 is of D-section and is closed at one end 9 so that the cap fits over and encloses the head and neck sections 5 and 6. A set of ventilation holes 10 are formed in the side wall of the cap. The cap engages the rib 8 of the abutment 4 with a snap action and is removed by twisting the cap relative to the body portion 1.

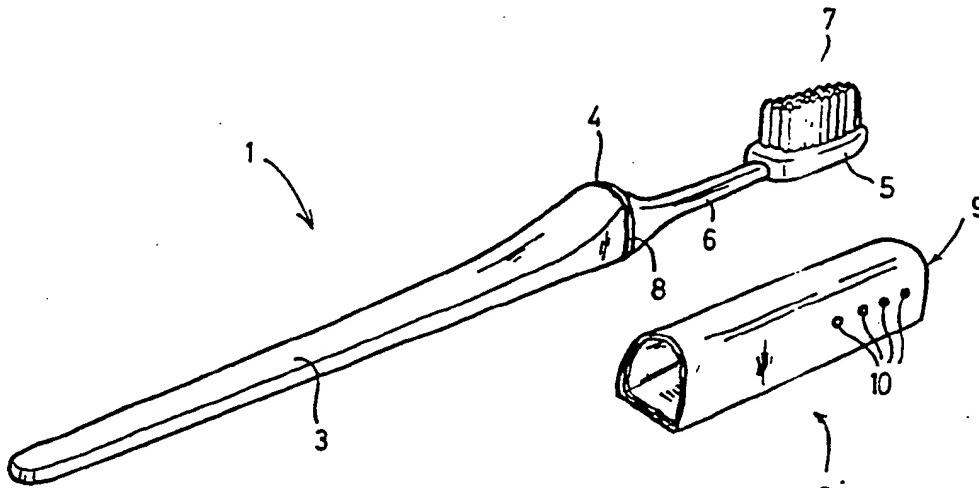


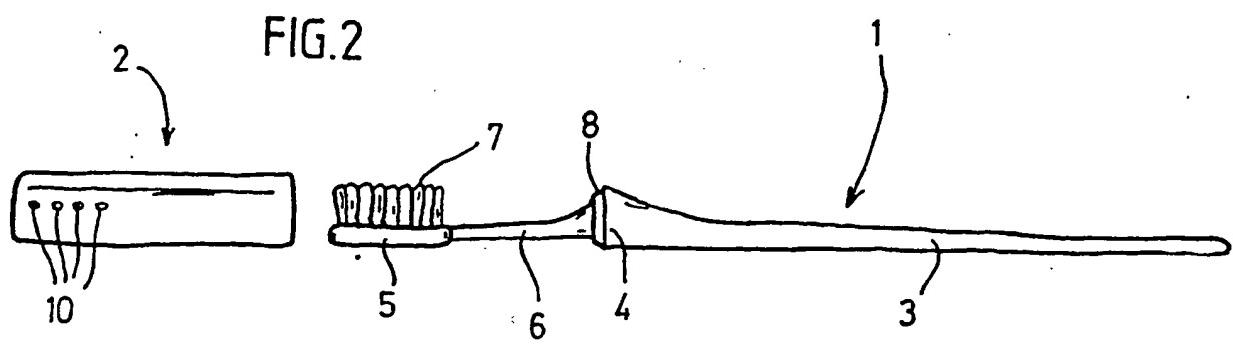
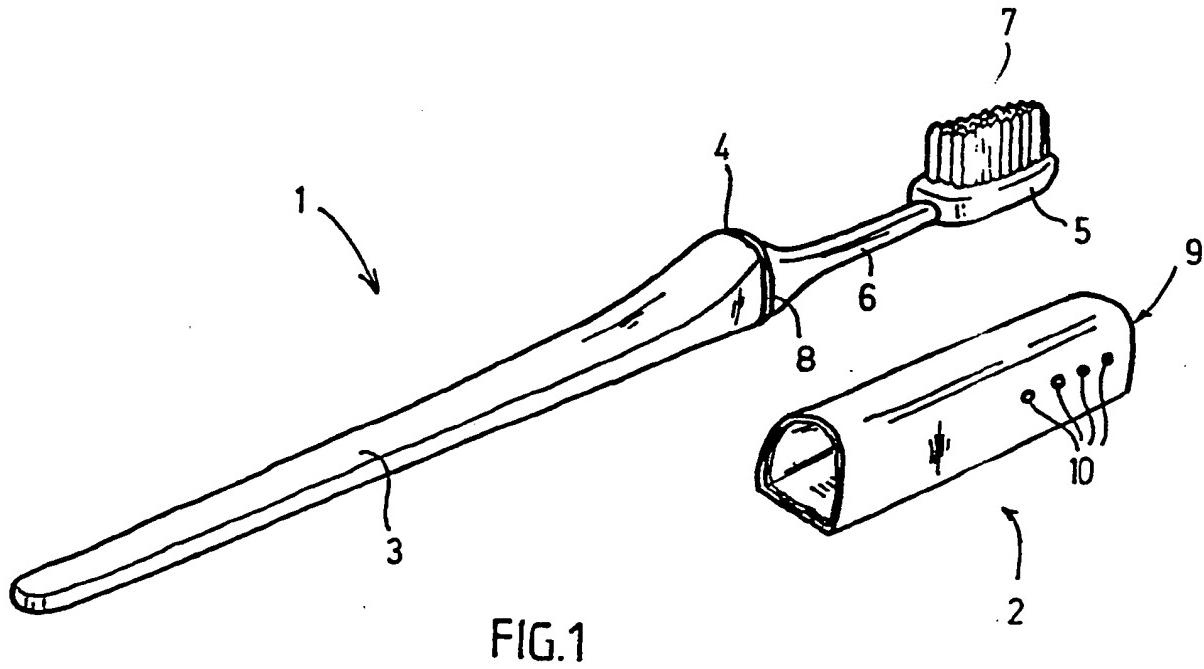
FIG.1

The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1982.

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TOOTHBRUSHES

TECHNICAL FIELD OF THE INVENTION

This invention relates to toothbrushes.

BACKGROUND ART

Proper dental care is extremely important. With improving education on dental hygiene in schools and in the media, more and more people are becoming aware of the importance of taking care of their teeth. In addition, dental costs are constantly increasing, which is a further incentive to avoid major treatment. Preventative dentistry is gaining prominence daily.

The buildup of plaque, which is a colourless bacterial film that is constantly forming, is the major cause of tooth decay and gum disease (pyorrhea). Decay is caused by plaque bacteria feeding upon food particles left on the teeth. Plaque builds up most heavily along the gum line and between the teeth. It must be removed daily, but it begins forming again as soon as it is removed. If left on the teeth, plaque hardens and becomes calculus (tartar). Calculus cannot be removed by brushing or flossing. Bacteria in plaque, if it is not removed daily, can also irritate the gums, causing redness, swelling and soreness. The gums may then separate from the teeth and cause pockets of infection, which may cause a bad odour in the mouth. If not

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treated early, plaque can destroy the bone that supports the teeth, often leading to the loss of teeth. In addition, periodontal gum disease is a serious disorder which can result in the loss of perfectly sound teeth. With the use of available preventative techniques and proper dental care, started early enough, most people could retain their own teeth for as long as they live.

Despite this increasing recognition of the importance of increased dental care, people often find it difficult or inconvenient to brush their teeth regularly, particularly after meals away from home for example. Despite a multiplicity of designs for toothbrushes being available the vast majority of them do not readily lend themselves to being carried in a pocket or handbag. They are apt to collect dirt and bacteria, particularly when wet immediately after use. Apart from making the toothbrush unhygienic to use, this renders the toothbrush a socially unacceptable item which again makes many people reluctant to carry one on a day-to-day basis.

Attempts have been made to market so-called travel toothbrushes but these are generally unattractive in design and tend to accumulate dirt and bacteria just as much, if not worse, than a normal toothbrush.

SUMMARY OF THE INVENTION

An aim of the present invention is to provide a form of toothbrush which is less likely to accumulate dirt or bacteria than a conventional toothbrush, and which is

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also of an attractive and stylish design.

The present invention proposes a toothbrush comprising, in combination, a one-piece elongate moulded plastics body portion and a cap member, the body portion including a handle section, a head section, and an outwardly projecting abutment formed between the head and handle sections, the head section carrying a set of bristles all extending to one side of the head section, and the cap member being arranged to enclose the head section and engage the abutment for retention on the body portion.

Thus the toothbrush essentially comprises two parts, the body and the cap. It is considered important for the cap to be completely separable from the body when the brush is in use so that the cap will not pick up bacteria or food particles from the mouth. The cap can thus be kept completely clean for replacement on the head of the brush after use.

The cap member preferably engages the abutment with a snap fit, and preferably has a twist-off action.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is exemplified in the accompanying drawings, in which:

Figure 1 is a perspective view of a toothbrush of the invention, and

Figure 2 is a side view of the toothbrush.

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DETAILED DESCRIPTION OF THE DRAWINGS

The toothbrush comprises a one-piece body portion 1 and a cap 2 each molded of a suitable plastics material such as polystyrene. The body portion 1 is of elongate shape and one end forms a handle section 3 which is substantially flat but smoothly increases in cross-sectional dimension towards an abutment 4. The remainder of the body portion comprises a flat head section 5 which is joined to the abutment 4 by a neck section 6. The head 5 carries a set of parallel bristles 7 arranged in a generally rectangular group and which all project laterally from a flat face of the head. The bristles may be of a tough plastics material such as Nylon.

The abutment is provided with a rib 8 which completely encircles the body portion, the purpose of which will be explained below.

The cap 2 is a hollow member of generally horse-shoe shaped section and is closed at one end 9. A set of ventilation holes 10 are formed in the side wall of the cap adjacent to its closed end 9. The cap fits over and encloses the head and neck sections 5 and 6, and the open end of the cap engages the rib 8 with a snap action. The cap is thus firmly retained on the body portion 1, but is easily removed therefrom by twisting the cap relative to the body portion about their length, so that the cap is disengaged from the rib 8 in known manner.

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The cap protects the bristles from dirt and bacteria , yet the ventilation holes 10 allow the bristles to dry easily.

Although it is considered important that the body portion should be moulded in one piece to eliminate joints or recesses that may harbour bacteria the abutment may carry a trim ring to enhance the appearance of the toothbrush. The handle section could have a series of indentations to accomodate the users fingers when holding the brush to provide a better grip. The cap could engage the abutment by means of complementary screw threads instead of a snap-fit.

Although the toothbrush is intended for normal everyday use it is also particularly suitable to be carried in a pocket or handbag.

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CLAIMS

1. A toothbrush comprising, in combination, a one-piece elongate moulded plastics body portion and a separate cap member, the body portion including a handle section, a head section, and an outwardly projecting abutment formed between the head and handle sections, the head section carrying a set of bristle-like elements all extending to one side thereof, and the cap member being arranged to enclose the head section and engage the abutment for retention on the body portion.
2. A toothbrush according to Claim 1, in which the cap member engages the abutment with a snap fit.
3. A toothbrush according to Claim 1 or 2, in which the cap member engages the abutment with a twist-off action.
4. A toothbrush according to any preceding claim, in which the cap is D-shaped in transverse section.
5. A toothbrush comprising, in combination, a one-piece elongate moulded plastics body portion and a separate moulded plastics cap member; the body portion including a handle section, a head section, and an outwardly projecting abutment formed between the head and handle sections and provided with a rib which completely encircles the body portion, the handle section being substantially flat but smoothly

increasing in cross-sectional dimension towards the abutment, the head section being substantially flat and carrying a set of plastics bristle-like elements all extending to one side thereof, and the head section being joined to the abutment by a neck section; and the cap member comprising a side wall of D-shaped cross section which is closed at one end by an end wall, the side wall of the cap being formed with a set of ventilation holes, and the cap being arranged to enclose the head and neck sections and engage the abutment with a snap action for retention on the body portion and being disengageable from the rib by a twist-off action.

6. A toothbrush substantially as described with reference to the accompanying drawings.

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